

● 발표 주제

포스코 전기차 경량화 솔루션

POSCO Lightweight Solutions for Electric Vehicle

**발표자 / 강연식**

POSCO

상무/성형연구그룹장

yeonkang@posco.com

Professional Career

PhD : KAIST, 1996

- 2017~ 현재) 성형연구그룹장
- 2001 POSCO 입사
- 1997~2001 Daewoo IAE, Daewoo Motors

● 발표초록

The automotive industry is extremely influenced by an increasing demand for better fuel efficiency and reduction of emissions. To achieve this strong regulation, car makers have tried to reduce CO2 emissions not only by traditional ways such as vehicle weight reduction, aerodynamic design, reduction of driving resistance and improvement of the efficiency in powertrain but also by development of eco-friendly vehicles including HEV, PHEV, BEV, FCEV and so on.

As the mass production of high speed battery electric vehicles (BEVs) was started, it has been argued during last decade that steel would be replaced as vehicle structure materials by more expensive light materials such as Al and composites for weight reduction. However, the majority of mass-produced vehicle bodies even for BEVs is still manufactured from stamped steel components. This means that steel has superior "lightweight cost competitiveness (not only the excellent physical properties in strength, formability, weldability and corrosion resistance but also the low cost)" compared to other competitors.

POSCO has been developing wide variety of steel solutions in order to keep its lightweight cost competitiveness even in the new era of BEVs. The main technologies are as follows:

1) PBC-EV (POSCO Body Concept for Electric Vehicle)

A new body concept, which achieve more than 20% weight reduction compared to the baseline body of similar-size vehicle.

2) PSC-EV (POSCO Suspension Concept for Electric Vehicle)

A new suspension concept, whose design is optimized to POSCO Giga Steel.

3) PBP-EV (POSCO Battery Pack for Electric Vehicle)

A 60kWh-class high capacity battery pack concept (60kWh) utilizing POSCO advanced steels.

4) High-torque down-sized motor for 4WD EV

A 40kW-class compact sized traction motor, which is designed by POSCO advanced electrical steel and application technologies.